North Dakota Department of Health
May – June 2003

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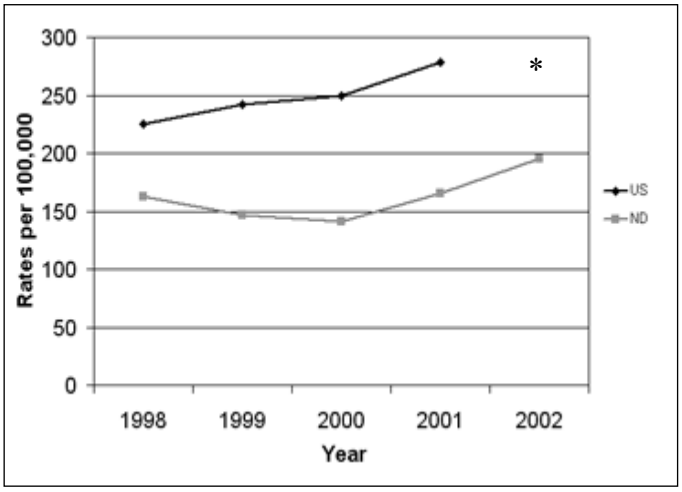
Chlamydia Screening Recommendations

Reported chlamydia cases in North Dakota increased 18 percent in 2002 when compared to 2001. The increasing trend of reported chlamydia cases in North Dakota is consistent with trends in the United States (Figure 1). The number of chlamydia cases reported in 2002 (1,254) is the highest number of cases reported in North Dakota in the past 10 years.

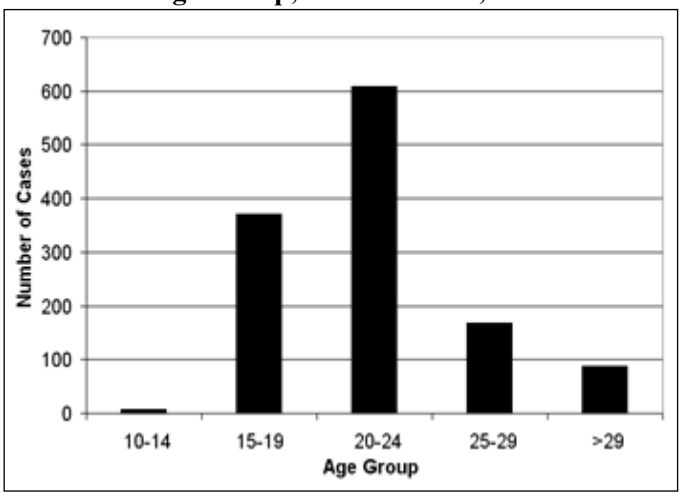
Figure 1. Chlamydia rates, North Dakota and United States, 1998 – 2002.



*National 2002 data is pending.

Females accounted for 66 percent of the reported cases in North Dakota in 2002. Almost one-half (48 percent) of the cases were reported in the 20- to 24-year age group, with 30 percent of the cases being reported in the 15- to 19-year age group (Figure 2). The largest increase in cases occurred in people age 20 to 24 (34.6 percent increase). This distribution differs slightly from national data, where 46 percent of reported chlamydial infections occur in the 15- to 19-year old age group and 33 percent in the 20- to 24-year age group (1).

Figure 2. Reported Chlamydia Cases by Age Group, North Dakota, 2002



Racial minorities continue to be disproportionately affected by chlamydia. Although American Indians, blacks and people of Hispanic decent compose less than 7 percent of North Dakota's population, almost 32 percent of the reported chlamydia cases were from these populations (Figure 3).

Chlamydia trachomatis is the most common sexually transmitted bacterial disease in the United States, with an estimated three million cases occurring each year (10). Complications of chlamydial infections in females include pelvic inflammatory disease (PID), which can include endometritis, salpingitis and peritonitis. Infertility, ectopic pregnancy and chronic pelvic pain are common sequelae (4,6). Neonates born to infected mothers are at risk for contracting chlamydial conjunctivitis and pneumonia (4). Complications of chlamydial infections also occur in men, including urethritis and epididymitis (4).

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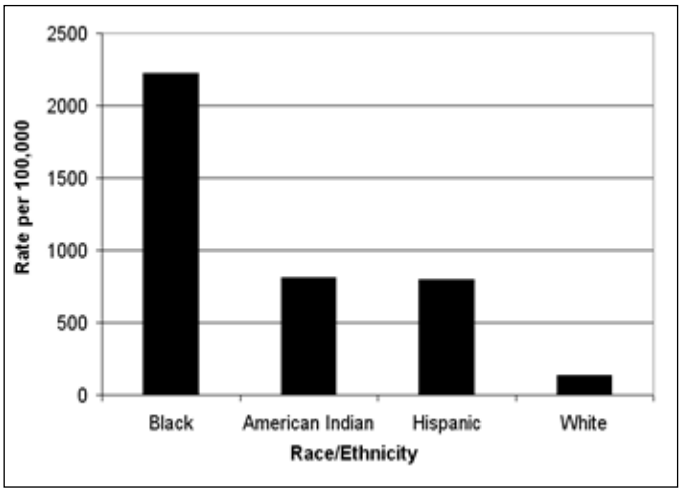
Figure 3. Reported Chlamydia Rates by Race/Ethnicity, North Dakota, 2002



Approximately 70 to 85 percent of females are asymptomatic, making diagnosing the infection more difficult and screening for disease a more practical approach to diagnosis (10). Multiple tests exist to identify chlamydia. New technology called nucleic acid amplification testing (NAAT) has the potential to expand chlamydia screening beyond traditional clinical settings and make testing easier by requiring only a urine specimen. These new tests are 30 – 40 percent more sensitive than previous technology and allow quicker results (8,10). In both men and women, the sensitivity of NAAT is similar for either urine, urethral or endocervical swabs.

Initiation of screening programs and introduction of testing methods with increased sensitivity may result initially in an increase of reported cases. This is already evident in North Dakota as the weekly median number of positive chlamydia reports from the North Dakota Division of Microbiology has increased by 38.5 percent since the NAAT technology was implemented in March 2003. It is well documented that screening programs have reduced chlamydia prevalence in areas where they have been in place for several years (7,10). In North Dakota, universal screening in family planning programs from 1990 to 1993 resulted in a 3.3 percent decrease in the prevalence of chlamydia.

The goal of chlamydia screening is to prevent upper reproductive tract complications in females and the transmission of the disease. The challenge of maintaining an effective screening program is determining who should be screened while maintaining an efficient use of resources (7).

Selective screening is more likely to be cost-effective and improve the positive predictive value of the screening test. Less expensive, more sensitive DNA tests improve cost as compared to culture (10). North Dakota is included in the Region VIII Health and Human Service (HHS) Region which also includes Colorado, Montana, South Dakota, Utah and Wyoming. Region VIII chlamydia screening recommendations are summarized below.

Summary of Chlamydia Screening Recommendations (Region VIII)

All sexually active women younger than 25

Women 25 and older with at least one of the following:

- New sex partner in the last 60 days
- Multiple sex partners in the last 60 days
- Mucopurulent cervicitis
- Pelvic inflammatory disease
- Positive for chlamydia in the last 12 months

Although it may seem intuitive to do so, little evidence exists to justify screening males for chlamydia. The United States Preventive Services Task Force and the Centers for Disease Control and Prevention make no recommendations for or against routinely screening asymptomatic men for chlamydial infection (10). However, the North Dakota Department of Health recommends providers consider screening high-risk young men for chlamydia. This practice has become more common since the introduction of urine-based screening tests.

Several factors may be contributing to the increases in reported chlamydia cases in North Dakota. Possible explanations include increases in the number of people being screened, increased sensitivity of screening tests and actual increases in disease. Analysis of testing data from the North Dakota Division of Microbiology for female family planning clients indicates that in this population, positivity increased by 0.95 percent from 2000 to 2002. In the non-family planning population, positivity increased from 3.5 to 4.1 percent. This data would suggest that increases in disease may be occurring. Another factor that may help to explain the increases in reported chlamydia in the last two years is the implementation of universal screening on a military installation in North Dakota. This screening program, using newer NAAT technology, resulted in a 55 percent increase in reported chlamydia cases from the installation.

Fluoroquinolone-Resistant *Neisseria gonorrhoeae*

Resistance of *Neisseria gonorrhoeae* to antibiotics continues to emerge world-wide and is a costly public health problem. The organism developed resistance to penicillin and tetracycline in the mid-1970's and both drugs were abandoned in 1987 as primary therapies of gonorrhea due to emerging resistance (2,5).

High-level fluoroquinolone-resistant *N. gonorrhoeae* strains are considered rare in the United States (0.7 percent) with the exception of Hawaii and California (2). Treatment of gonorrhea with fluoroquinolones is not advised by the CDC in these two states (3). Fluoroquinolone-resistance is common in parts of Asia and the Pacific, where fluoroquinolone therapy is also not advised (3).

Fluoroquinolones can continue to be administered in the United States for gonococcal infections in areas where the prevalence of resistance is less than one percent (3). Recommended treatment regimens are listed in Table 1. Though still included as a recommended regimen, cefixime is no longer produced in the United States. Ceftriaxone 125 mg IM remains the regimen of choice when flouroquinolone-resistant *N. gonorrhoeae* is a concern (3). The CDC STD Treatment Guidelines are available at http://www.cdc.gov/std/treatment/default.htm.

To ensure proper antibiotic therapy for patients with gonorrhea, a thorough travel history and history of sex partners should be obtained by clinicians.

Et tu Syphilis

In 1999, with national syphilis rates at an all time low and declining, the CDC announced plans to eliminate syphilis in the United States. Since then, cases of primary and secondary syphilis have increased in the United States, mainly among men who have sex with men and in larger cities. In 2002, Minnesota reported 56 cases of early syphilis in men who have sex with men (9). Most of the cases were reported from the Twin Cities area. About 45 percent of these cases were co-infected with HIV.

No cases of early syphilis have been reported in North Dakota since 1993. However, seven cases of rectal gonorrhea or chlamydia have been reported since January 2000. Some of these cases have reported anonymous sexual contacts in the Minneapolis – St. Paul area.

Health care providers are encouraged to obtain thorough sexual histories on their patients. Men reporting having sex with other men should be offered testing for rectal and urethral chlamydia and gonorrhea as well as syphilis and HIV.

Table 1. Recommendations for Treatment of Gonococcal Infections

Uncomplicated Gonococcal Infections of the Cervix, Urethra and Rectum	**Cefixime** 400 mg orally in a single dose, **OR** **Ceftriaxone** 125 mg IM in a single dose, **OR** **Ciprofloxacin** 500 mg orally in a single dose,[§§] **OR** **Ofloxacin** 400 mg orally in a single dose, [§§] **OR** **Levofloxacin** 250 mg orally in a single dose, [§§] *PLUS, IF CHLAMYDIAL INFECTION IS NOT RULED OUT* **Azithromycin** 1 g orally in a single dose, **OR** **Doxycycline** 100 mg orally twice daily for 7 days.
Uncomplicated Gonococcal Infections of the Pharynx	**Ceftriaxone** 125 mg IM in a single dose, **OR** **Ciprofloxacin** 500 mg orally in a single dose,[§§] *PLUS, IF CHLAMYDIAL INFECTION IS NOT RULED OUT* **Azithromycin** 1 g orally in a single dose, **OR** **Doxycycline** 100 mg orally twice daily for 7 days.
Disseminated Gonococcal Infection (DGI)	**Ceftriaxone** 1 g IM or IV every 24 hours
Gonococcal Meningitis and Endocarditis	**Ceftriaxone** 1 – 2 g IV every 12 hours

[§§]Quinolones should not be used for infections acquired in Asia or the Pacific, including Hawaii. In addition, use of quinolones is probably inadvisable for treating infections acquired in California and in other areas with increased prevalence of quinolone resistance.
Source: (3)

Did you know??
Health care providers can now send disease report cards to the NDDoH via the internet at **www.health.state.nd.us/disease/DiseaseCard.htm**. Call Erin Fox at 1.701.328.3341 or Julie Goplin at 1.701.328.2375 if you have any questions about the new system. The NDDoH still accepts alternative reporting methods such as paper report card, fax, etc.

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Summary of Selected Reportable Conditions					
North Dakota, 2002-2003					
Reportable Condition	**May-June 2003***	**Jan-June 2003***		**May-June 2002**	**Jan-June 2002**
Campylobacteriosis	27	43		14	32
Chlamydia	290	790		222	636
Cryptosporidiosis	6	9		3	12
E.coli, shiga toxin positive (non-O157)	4	5		0	0
E. coli O157:H7	3	4		9	11
Giardiasis	5	22		5	17
Gonorrhea	15	40		11	33
Haemophilus influenzae (invasive)	1	2		3	4
Hepatitis A	0	0		1	3
Hepatitis B	0	0		3	6
Hepatitis C	0	0		0	0
HIV/AIDS	3	10		4	10
Legionellosis	0	1		0	0
Listeriosis	0	0		0	1
Lyme Disease	0	0		0	0
Malaria	1	1		0	1
Meningitis, bacterial (non meningococcal)	0	2▲		0	1▲
Meningococcal disease	1	3		0	3
MRSA	151§	559§		36★	90★
Pertussis	0	2		0	6
Q fever	0	1		0	0
Rabies (animal)	16	35		18	33
Salmonellosis	8	22		11	30
Shigellosis	3	6		0	18
•Streptococcal disease, Group A (invasive)	1	10		0	3
•Streptococcal disease, Group B (infant < 3 months of age)	1	2		0	0
•Streptococcal disease, Group B (invasive†)	4	11		2	6
•Streptococcal pneumoniae, (invasive, children < 5 years of age)	2	4		1	3
•Streptococcal pneumoniae (invasive‡)	9	32		7	26
•Streptococcus pneumoniae, drug resistant	0	3		0	1
Tuberculosis	0	0		2	6
Tularemia	0	0		0	0

*Provisional data

▲Meningitis caused by *Staphylococcus aureus* and *Streptococcus pneumoniae.*

•Includes invasive infections caused by streptococcal disease not including those classified as meningitis.

†Includes invasive infections of streptococcal, Group B, disease in persons ≥ 3 months of age.

‡Includes invasive infections caused by *Streptococcus pneumoniae* in persons ≥ 5 years of age.

§Includes MRSA isolated from all sites.

★Includes invasive sites only.